

- ABSTRACT OF THE DISCLOSURE

87/ A silent chain power transmission apparatus comprises an
endless silent chain and a sprocket. The chain includes link
5 plates each having teeth profiled by inside and outside tooth
faces. The inside tooth faces are identical to tooth profiles
arranged axially of a hob cutter for forming teeth of the
sprocket. The inside and outside tooth faces are formed to
satisfy $H_i = H_o + H_s$, where H_i is a distance from a pin center line
10 L_p , passing over the centers of pins interconnecting the link
plates, to a pitch line L_i of the inside tooth faces, H_o is a
distance from the pin center line to a pitch line L_o of the
outside tooth faces, and H_s is an amplitude of polygonal motion
of the chain. Each link plate also has a concave bottom surface
15 defined between the teeth thereof at a position where its
interference with edges of the involute teeth, arising owing to
the chain polygonal motion amplitude when the outside tooth
faces are brought into meshing engagement with the involute
teeth and get seated thereon, can be avoided.